

Claims

1-10 Canceled

11. (New) A method braking an electromotor which can be driven by a direct current, the method comprising:

verifying a presence of one or more definite error states taking into account a maximum loading capacity of one or more electronic control units connected to the electromotor; and

carrying out a control of the electromotor to brake the electromotor based on a definite error state.

12. (New) A method according to claim 11 further comprising:

determining whether a control current or control currents applied to the electromotor is determinable; and

if the control current was determined, the electromotor is braked, by producing, at least temporarily in at least one motor phase, a current-regulated short circuit, by application of a current indicator via a PWM on an electronically commutated direct current motor, otherwise if the control current or control currents is not detectable, the electromotor is braked, by producing, at least temporarily in at least one motor phase, a short circuit as a function of rpm or under time control.

13. (New) A method according to claim 11 further comprising:

determining whether a current rpm of the electromotor is detectable; and

if the current rpm was detected, the electromotor is braked, by producing, at least temporarily in at least one motor phase, an rpm-dependent short circuit as a function of the current rpm by application of a voltage indicator via a PWM in an

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electronically commutated direct current motor, otherwise if the current rpm is not detectable, the electromotor is braked, by producing, at least temporarily in at least one motor phase, a short circuit, under time control.

14. (New) A method according to claim 11 further comprising:

determining, at the time when the error occurred, whether an rpm of the electromotor is detectable; and

if the rpm was detected at the time when the error occurred, the electromotor is braked, by producing, at least temporarily in at least one motor phase, a short circuit, under time control, as a function of the rpm at the time when the error occurred, by application of a voltage indicator via a PWM in an electronically commutated direct current motor, otherwise if the rpm is not detectable at the time when the error occurred, the electromotor is braked, by producing, at least temporarily in at least one motor phase, a short circuit, under time control, as a function of a maximum rpm of the electromotor, particularly with the application of the voltage indicator via a PWM in an electronically commutated direct current motor.

15. (New) An electrical drive for a superposition steering for a motor vehicle or for an electromechanical brake (EMB), which presents an electromotor which can be operated with a direct current, such as a brushless direct current motor, the electrical drive comprising:

an electronic control unit and a power electronics unit for controlling an electromotor and having a detector for detecting an error of the electromotor or an electronic unit connected thereto; and

a braking device, for braking the electromotor, when the detector detects an error, wherein the braking and stopping device causes the power electronics, at least temporarily in at least one motor phase, to produce a short circuit as a function of

the detected error, taking into account a maximum loading capacity of the power electronics.

16. (New) An electrical drive according to claim 15, wherein the electromotor is an electronically commutated direct current motor, and the electronic control presents a PWM regulation for the direct current motor, the detector detects the control current or control currents applied to the direct current motor, and if the detector detects an error and a control current is determinable, the direct current motor is braked by the braking device causing the power electronics, at least temporarily in at least one motor phase, to produce a current-regulated short circuit as a function of the determined control current or control currents, by the application of a current indicator via the PWM, otherwise if the detector detects an error, and if no control current is determinable, the electromotor is braked, by producing, at least temporarily in at least one motor phase, an rpm-dependent short circuit as a function of the direct current motor rpm or under time control.
17. (New) An electrical drive according to claim 15, wherein the electromotor is an electronically commutated direct current motor, and the electronic control unit presents a PWM regulation for the direct current motor, the detector detects a current rpm of the direct current motor, and the direct current motor is braked, by the brake device causing the power electronics to produce, at least temporarily in at least one motor phase, an rpm-dependent short circuit as a function of the current rpm, by application of a voltage indicator via the PWM, otherwise if the detector detects an error and no current motor rpm is detectable, the electromotor is braked by producing, at least temporarily in at least one motor phase, a short circuit, under time control.
18. (New) An electrical drive according to claim 15, wherein the electromotor is an electronically commutated direct current motor, and the electronic control unit

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presents a PWM regulation for the direct current motor, the detector detects the rpm of the direct current motor at the time when the error occurred, wherein the direct current motor is braked, by the braking device causing the power electronics to generate, at least temporarily in at least one motor phase, a short circuit, under time control, as a function of the rpm at the time when the error occurred, by the application of a voltage indicator via the PWM, otherwise if the detector an error and no motor rpm is detectable at the time when the error occurred, the electromotor is braked, by producing, at least temporarily in at least one motor phase, a short circuit, under time control, as a function of the maximum rpm of the direct current motor.

19. (New) An electrical drive according to claim 15 further comprising:

an auxiliary control unit having which presents an auxiliary braking device, for braking the electromotor if the detector detects an error in the electronic control unit which prevents a reliable control of the power electronics by the braking device.